WORLDWIDE wwPDB PROTEIN DATA BANK

Full wwPDB X-ray Structure Validation Report (i)

Aug 20, 2023 – 08:17 PM EDT

PDB ID	:	2HW6
Title	:	Crystal structure of Mnk1 catalytic domain
Authors	:	Jauch, R.; Wahl, M.C.
Deposited on	:	2006-08-01
Resolution	:	2.50 Å(reported)

The following versions of software and data (see references (i)) were used in the production of this report:

|		
MolProbity	:	4.02b-467
Mogul	:	1.8.5 (274361), CSD as541be (2020)
Xtriage (Phenix)	:	1.13
EDS	:	2.35
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
Refmac	:	5.8.0158
CCP4	:	7.0.044 (Gargrove)
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.35

1 Overall quality at a glance ⓘ

The following experimental techniques were used to determine the structure:
X-RAY DIFFRACTION

The reported resolution of this entry is 2.50 Å.

Percentile scores (ranging between 0-100) for global validation metrics of the entry are shown in the following graphic. The table shows the number of entries on which the scores are based.
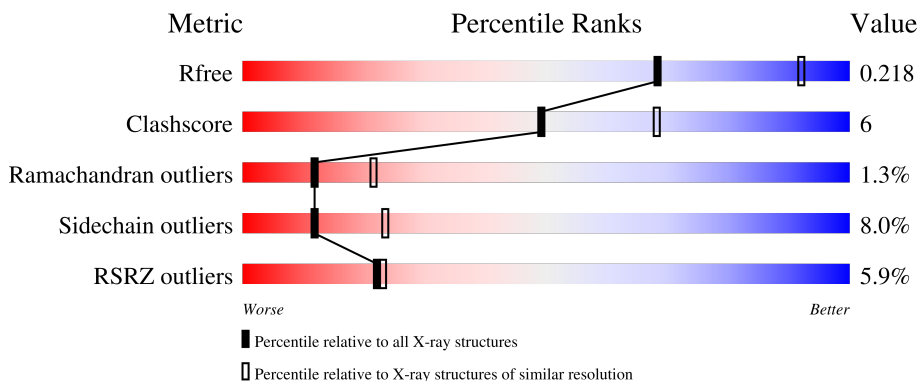
Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
R_{free}	130704	4661 (2.50-2.50)
Clashscore	141614	5346 (2.50-2.50)
Ramachandran outliers	138981	5231 (2.50-2.50)
Sidechain outliers	138945	5233 (2.50-2.50)
RSRZ outliers	127900	4559 (2.50-2.50)

The table below summarises the geometric issues observed across the polymeric chains and their fit to the electron density. The red, orange, yellow and green segments of the lower bar indicate the fraction of residues that contain outliers for >=3, 2, 1 and 0 types of geometric quality criteria respectively. A grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions <=5% The upper red bar (where present) indicates the fraction of residues that have poor fit to the electron density. The numeric value is given above the bar.

Mol	Chain	Length	Quality of chain
1	A	307	3% / 68% / 8% · 21%
1	B	307	6% / 61% / 13% · 24%

2 Entry composition ⓘ

There are 3 unique types of molecules in this entry. The entry contains 3963 atoms, of which 0 are hydrogens and 0 are deuteriums.

In the tables below, the ZeroOcc column contains the number of atoms modelled with zero occupancy, the AltConf column contains the number of residues with at least one atom in alternate conformation and the Trace column contains the number of residues modelled with at most 2 atoms.

- Molecule 1 is a protein called MAP kinase-interacting serine/threonine-protein kinase 1.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	242	Total 1941	C 1244	N 330	O 361	S 6	0	0	0
1	B	233	Total 1874	C 1203	N 319	O 345	S 7	0	0	0

There are 86 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	35	GLY	-	cloning artifact	UNP Q9BUB5
A	36	SER	-	cloning artifact	UNP Q9BUB5
A	?	-	ASP	SEE REMARK 999	UNP Q9BUB5
A	?	-	LYS	SEE REMARK 999	UNP Q9BUB5
A	?	-	VAL	SEE REMARK 999	UNP Q9BUB5
A	?	-	SER	SEE REMARK 999	UNP Q9BUB5
A	?	-	LEU	SEE REMARK 999	UNP Q9BUB5
A	?	-	CYS	SEE REMARK 999	UNP Q9BUB5
A	?	-	HIS	SEE REMARK 999	UNP Q9BUB5
A	?	-	LEU	SEE REMARK 999	UNP Q9BUB5
A	?	-	GLY	SEE REMARK 999	UNP Q9BUB5
A	?	-	TRP	SEE REMARK 999	UNP Q9BUB5
A	?	-	SER	SEE REMARK 999	UNP Q9BUB5
A	?	-	ALA	SEE REMARK 999	UNP Q9BUB5
A	?	-	MET	SEE REMARK 999	UNP Q9BUB5
A	?	-	ALA	SEE REMARK 999	UNP Q9BUB5
A	?	-	PRO	SEE REMARK 999	UNP Q9BUB5
A	?	-	SER	SEE REMARK 999	UNP Q9BUB5
A	?	-	GLY	SEE REMARK 999	UNP Q9BUB5
A	?	-	LEU	SEE REMARK 999	UNP Q9BUB5
A	?	-	THR	SEE REMARK 999	UNP Q9BUB5
A	?	-	ALA	SEE REMARK 999	UNP Q9BUB5
A	?	-	ALA	SEE REMARK 999	UNP Q9BUB5
A	?	-	PRO	SEE REMARK 999	UNP Q9BUB5
A	?	-	THR	SEE REMARK 999	UNP Q9BUB5

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Chain	Residue	Modelled	Actual	Comment	Reference
A	?	-	SER	SEE REMARK 999	UNP Q9BUB5
A	?	-	LEU	SEE REMARK 999	UNP Q9BUB5
A	?	-	GLY	SEE REMARK 999	UNP Q9BUB5
A	?	-	SER	SEE REMARK 999	UNP Q9BUB5
A	?	-	SER	SEE REMARK 999	UNP Q9BUB5
A	?	-	ASP	SEE REMARK 999	UNP Q9BUB5
A	?	-	PRO	SEE REMARK 999	UNP Q9BUB5
A	?	-	PRO	SEE REMARK 999	UNP Q9BUB5
A	?	-	THR	SEE REMARK 999	UNP Q9BUB5
A	?	-	SER	SEE REMARK 999	UNP Q9BUB5
A	?	-	ALA	SEE REMARK 999	UNP Q9BUB5
A	?	-	SER	SEE REMARK 999	UNP Q9BUB5
A	?	-	GLN	SEE REMARK 999	UNP Q9BUB5
A	?	-	VAL	SEE REMARK 999	UNP Q9BUB5
A	?	-	ALA	SEE REMARK 999	UNP Q9BUB5
A	?	-	GLY	SEE REMARK 999	UNP Q9BUB5
A	?	-	THR	SEE REMARK 999	UNP Q9BUB5
A	?	-	THR	SEE REMARK 999	UNP Q9BUB5
B	35	GLY	-	cloning artifact	UNP Q9BUB5
B	36	SER	-	cloning artifact	UNP Q9BUB5
B	?	-	ASP	SEE REMARK 999	UNP Q9BUB5
B	?	-	LYS	SEE REMARK 999	UNP Q9BUB5
B	?	-	VAL	SEE REMARK 999	UNP Q9BUB5
B	?	-	SER	SEE REMARK 999	UNP Q9BUB5
B	?	-	LEU	SEE REMARK 999	UNP Q9BUB5
B	?	-	CYS	SEE REMARK 999	UNP Q9BUB5
B	?	-	HIS	SEE REMARK 999	UNP Q9BUB5
B	?	-	LEU	SEE REMARK 999	UNP Q9BUB5
B	?	-	GLY	SEE REMARK 999	UNP Q9BUB5
B	?	-	TRP	SEE REMARK 999	UNP Q9BUB5
B	?	-	SER	SEE REMARK 999	UNP Q9BUB5
B	?	-	ALA	SEE REMARK 999	UNP Q9BUB5
B	?	-	MET	SEE REMARK 999	UNP Q9BUB5
B	?	-	ALA	SEE REMARK 999	UNP Q9BUB5
B	?	-	PRO	SEE REMARK 999	UNP Q9BUB5
B	?	-	SER	SEE REMARK 999	UNP Q9BUB5
B	?	-	GLY	SEE REMARK 999	UNP Q9BUB5
B	?	-	LEU	SEE REMARK 999	UNP Q9BUB5
B	?	-	THR	SEE REMARK 999	UNP Q9BUB5
B	?	-	ALA	SEE REMARK 999	UNP Q9BUB5
B	?	-	ALA	SEE REMARK 999	UNP Q9BUB5
B	?	-	PRO	SEE REMARK 999	UNP Q9BUB5

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Chain	Residue	Modelled	Actual	Comment	Reference
B	?	-	THR	SEE REMARK 999	UNP Q9BUB5
B	?	-	SER	SEE REMARK 999	UNP Q9BUB5
B	?	-	LEU	SEE REMARK 999	UNP Q9BUB5
B	?	-	GLY	SEE REMARK 999	UNP Q9BUB5
B	?	-	SER	SEE REMARK 999	UNP Q9BUB5
B	?	-	SER	SEE REMARK 999	UNP Q9BUB5
B	?	-	ASP	SEE REMARK 999	UNP Q9BUB5
B	?	-	PRO	SEE REMARK 999	UNP Q9BUB5
B	?	-	PRO	SEE REMARK 999	UNP Q9BUB5
B	?	-	THR	SEE REMARK 999	UNP Q9BUB5
B	?	-	SER	SEE REMARK 999	UNP Q9BUB5
B	?	-	ALA	SEE REMARK 999	UNP Q9BUB5
B	?	-	SER	SEE REMARK 999	UNP Q9BUB5
B	?	-	GLN	SEE REMARK 999	UNP Q9BUB5
B	?	-	VAL	SEE REMARK 999	UNP Q9BUB5
B	?	-	ALA	SEE REMARK 999	UNP Q9BUB5
B	?	-	GLY	SEE REMARK 999	UNP Q9BUB5
B	?	-	THR	SEE REMARK 999	UNP Q9BUB5
B	?	-	THR	SEE REMARK 999	UNP Q9BUB5

- Molecule 2 is SULFATE ION (three-letter code: SO4) (formula: O_4S).

Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
2	A	1	Total 5	O 4	S 1	0	0
2	B	1	Total 5	O 4	S 1	0	0

• Molecule 3 is water.

| Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
3	A	74	Total 74	O 74	0	0
3	B	64	Total 64	O 64	0	0

3 Residue-property plots ⓘ

These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and electron density. Residues are color-coded according to the number of geometric quality criteria for which they contain at least one outlier: green = 0, yellow = 1, orange = 2 and red = 3 or more. A red dot above a residue indicates a poor fit to the electron density (RSRZ > 2). Stretches of 2 or more consecutive residues without any outlier are shown as a green connector. Residues present in the sample, but not in the model, are shown in grey.

• Molecule 1: MAP kinase-interacting serine/threonine-protein kinase 1
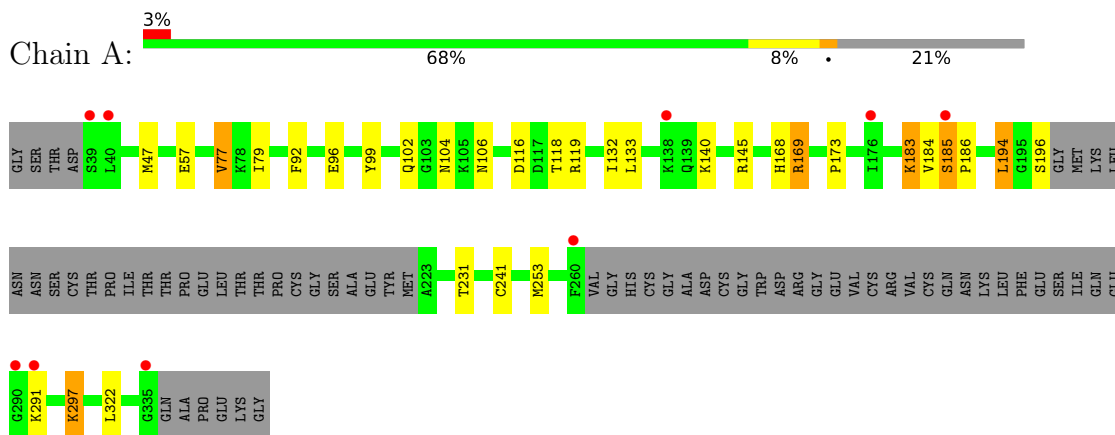
• Molecule 1: MAP kinase-interacting serine/threonine-protein kinase 1
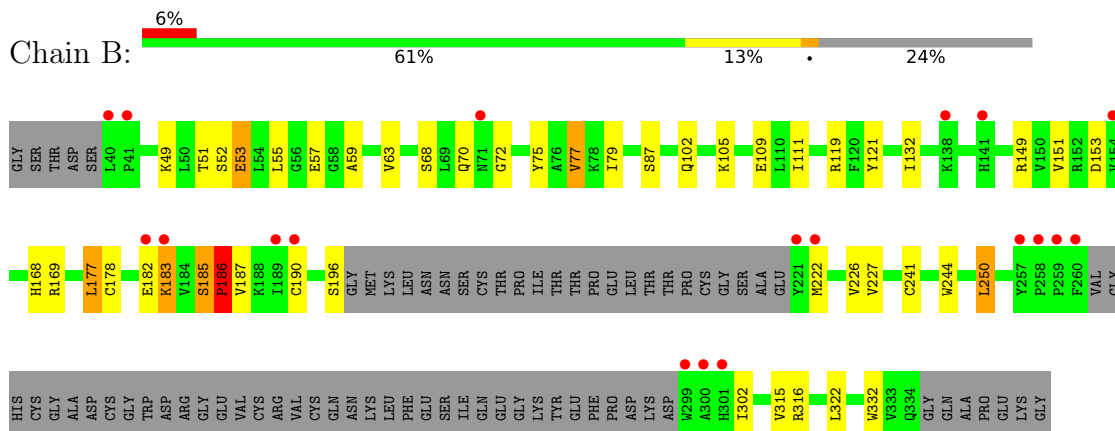
4 Data and refinement statistics ⓘ

Property	Value	Source
Space group	P 43 21 2	Depositor
Cell constants a, b, c, α, β, γ	93.47Å 93.47Å 175.18Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	30.00 – 2.50	Depositor
	29.56 – 2.50	EDS
% Data completeness (in resolution range)	69.6 (30.00-2.50)	Depositor
	71.9 (29.56-2.50)	EDS
R_{merge}	(Not available)	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) >$ [1]	1.81 (at 2.51Å)	Xtriage
Refinement program	REFMAC 5.2.0005	Depositor
R, R_{free}	0.207 , 0.257	Depositor
	0.209 , 0.218	DCC
R_{free} test set	1010 reflections (5.10%)	wwPDB-VP
Wilson B-factor (Å^2)	34.9	Xtriage
Anisotropy	0.718	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.31 , 55.6	EDS
L-test for twinning[2]	$< |L| > = 0.50$, $< L^2 > = 0.33$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
F_o,F_c correlation	0.93	EDS
Total number of atoms	3963	wwPDB-VP
Average B, all atoms (Å^2)	48.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 10.34% of the height of the origin peak. No significant pseudotranslation is detected.*

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[1]Intensities estimated from amplitudes.
[2]Theoretical values of $< |L| >$, $< L^2 >$ for acentric reflections are 0.5, 0.333 respectively for untwinned datasets, and 0.375, 0.2 for perfectly twinned datasets.

5 Model quality (i)

5.1 Standard geometry (i)

Bond lengths and bond angles in the following residue types are not validated in this section: SO4

The Z score for a bond length (or angle) is the number of standard deviations the observed value is removed from the expected value. A bond length (or angle) with $|Z| > 5$ is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#$|Z|$ >5	RMSZ	#$|Z|$ >5
1	A	0.50	0/1982	0.60	1/2671 (0.0%)
1	B	0.46	0/1913	0.58	0/2579
All	All	0.48	0/3895	0.59	1/5250 (0.0%)

There are no bond length outliers.

All (1) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	A	194	LEU	CA-CB-CG	5.05	126.91	115.30

There are no chirality outliers.

There are no planarity outliers.

5.2 Too-close contacts (i)

In the following table, the Non-H and H(model) columns list the number of non-hydrogen atoms and hydrogen atoms in the chain respectively. The H(added) column lists the number of hydrogen atoms added and optimized by MolProbity. The Clashes column lists the number of clashes within the asymmetric unit, whereas Symm-Clashes lists symmetry-related clashes.

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	1941	0	1927	21	0
1	B	1874	0	1869	26	0
2	A	5	0	0	0	0
2	B	5	0	0	0	0
3	A	74	0	0	0	0
3	B	64	0	0	0	0
All	All	3963	0	3796	45	0

The all-atom clashscore is defined as the number of clashes found per 1000 atoms (including hydrogen atoms). The all-atom clashscore for this structure is 6.

All (45) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:169:ARG:HH21	1:A:169:ARG:HG2	1.14	1.07
1:B:185:SER:HB2	1:B:186:PRO:HD2	1.40	1.03
1:A:169:ARG:HG2	1:A:169:ARG:NH2	1.87	0.76
1:B:183:LYS:HG3	1:B:185:SER:HB3	1.69	0.75
1:A:57:GLU:OE1	1:B:57:GLU:HB2	1.90	0.71
1:B:51:THR:HG22	1:B:53:GLU:H	1.57	0.69
1:A:116:ASP:HB3	1:A:118:THR:H	1.57	0.68
1:A:116:ASP:HB2	1:A:119:ARG:H	1.59	0.66
1:A:185:SER:HB2	1:A:186:PRO:HD3	1.78	0.65
1:B:55:LEU:HD13	1:B:63:VAL:HG12	1.79	0.64
1:A:185:SER:CB	1:A:186:PRO:HD3	2.29	0.62
1:A:297:LYS:NZ	1:A:297:LYS:HB3	2.19	0.58
1:B:185:SER:HB2	1:B:186:PRO:CD	2.26	0.56
1:A:99:TYR:O	1:A:102:GLN:HG2	2.09	0.53
1:A:169:ARG:HD3	1:A:231:THR:OG1	2.09	0.52
1:B:109:GLU:HG2	1:B:111:ILE:HD12	1.93	0.51
1:B:51:THR:HG22	1:B:53:GLU:N	2.23	0.50
1:B:151:VAL:HG21	1:B:250:LEU:HG	1.94	0.49
1:B:177:LEU:HD22	1:B:190:CYS:SG	2.53	0.49
1:B:178:CYS:HA	1:B:187:VAL:HG12	1.95	0.49
1:A:168:HIS:O	1:A:169:ARG:HB2	2.12	0.49
1:B:77:VAL:HG22	1:B:79:ILE:HG13	1.94	0.49
1:B:79:ILE:HG22	1:B:119:ARG:HD2	1.94	0.48
1:B:79:ILE:CG2	1:B:119:ARG:HD2	2.43	0.48
1:A:183:LYS:HG3	1:A:185:SER:HB2	1.95	0.48
1:A:297:LYS:HB3	1:A:297:LYS:HZ2	1.78	0.48
1:B:87:SER:HA	1:B:226:VAL:HG21	1.96	0.48
1:A:169:ARG:CD	1:A:231:THR:OG1	2.63	0.47
1:B:59:ALA:H	1:B:196:SER:H	1.63	0.47
1:B:68:SER:HB2	1:B:75:TYR:HE1	1.80	0.46
1:B:185:SER:CB	1:B:186:PRO:HD2	2.24	0.46
1:B:79:ILE:HG12	1:B:121:TYR:CD2	2.52	0.45
1:B:168:HIS:O	1:B:169:ARG:HB2	2.17	0.45
1:B:302:ILE:H	1:B:302:ILE:HG13	1.72	0.45
1:B:68:SER:O	1:B:72:GLY:HA2	2.17	0.44
1:A:57:GLU:HB3	1:B:57:GLU:HG3	1.99	0.44
1:A:77:VAL:HG22	1:A:79:ILE:HG13	2.01	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:250:LEU:HD21	1:B:332:TRP:CH2	2.54	0.43
1:A:116:ASP:CB	1:A:119:ARG:H	2.31	0.42
1:A:92:PHE:O	1:A:96:GLU:HG2	2.19	0.42
1:A:133:LEU:HB2	1:A:173:PRO:HB2	2.01	0.42
1:A:169:ARG:HH21	1:A:169:ARG:CG	2.03	0.42
1:B:51:THR:HG22	1:B:53:GLU:HB2	2.02	0.41
1:B:182:GLU:HG2	1:B:183:LYS:H	1.86	0.41
1:A:104:ASN:ND2	1:A:106:ASN:H	2.18	0.40

There are no symmetry-related clashes.

5.3   Torsion angles   ⓘ

5.3.1   Protein backbone   ⓘ

In the following table, the Percentiles column shows the percent Ramachandran outliers of the chain as a percentile score with respect to all X-ray entries followed by that with respect to entries of similar resolution.

The Analysed column shows the number of residues for which the backbone conformation was analysed, and the total number of residues.

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	A	236/307 (77%)	225 (95%)	9 (4%)	2 (1%)	19	35
1	B	227/307 (74%)	202 (89%)	21 (9%)	4 (2%)	8	14
All	All	463/614 (75%)	427 (92%)	30 (6%)	6 (1%)	12	21

All (6) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	B	185	SER
1	B	53	GLU
1	B	102	GLN
1	A	185	SER
1	A	291	LYS
1	B	186	PRO

5.3.2 Protein sidechains ⓘ

In the following table, the Percentiles column shows the percent sidechain outliers of the chain as a percentile score with respect to all X-ray entries followed by that with respect to entries of similar resolution.

The Analysed column shows the number of residues for which the sidechain conformation was analysed, and the total number of residues.

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	A	209/263 (80%)	195 (93%)	14 (7%)	16	31
1	B	202/263 (77%)	183 (91%)	19 (9%)	8	17
All	All	411/526 (78%)	378 (92%)	33 (8%)	12	23

All (33) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	47	MET
1	A	77	VAL
1	A	132	ILE
1	A	140	LYS
1	A	145	ARG
1	A	169	ARG
1	A	183	LYS
1	A	184	VAL
1	A	194	LEU
1	A	196	SER
1	A	241	CYS
1	A	253	MET
1	A	297	LYS
1	A	322	LEU
1	B	49	LYS
1	B	52	SER
1	B	70	GLN
1	B	77	VAL
1	B	105	LYS
1	B	132	ILE
1	B	149	ARG
1	B	153	ASP
1	B	177	LEU
1	B	183	LYS
1	B	186	PRO
1	B	222	MET
1	B	227	VAL

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Mol	Chain	Res	Type
1	B	241	CYS
1	B	244	TRP
1	B	250	LEU
1	B	315	VAL
1	B	316	ARG
1	B	322	LEU

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (6) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	86	HIS
1	A	100	GLN
1	A	104	ASN
1	B	102	GLN
1	B	104	ASN
1	B	143	ASN

5.3.3 RNA ⓘ

There are no RNA molecules in this entry.

5.4 Non-standard residues in protein, DNA, RNA chains ⓘ

There are no non-standard protein/DNA/RNA residues in this entry.

5.5 Carbohydrates ⓘ

There are no monosaccharides in this entry.

5.6 Ligand geometry ⓘ

2 ligands are modelled in this entry.

In the following table, the Counts columns list the number of bonds (or angles) for which Mogul statistics could be retrieved, the number of bonds (or angles) that are observed in the model and the number of bonds (or angles) that are defined in the Chemical Component Dictionary. The Link column lists molecule types, if any, to which the group is linked. The Z score for a bond length (or angle) is the number of standard deviations the observed value is removed from the expected value. A bond length (or angle) with $|Z| > 2$ is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	#$\|Z\|$ > 2	Counts	RMSZ	#$\|Z\|$ > 2
2	SO4	B	342	-	4,4,4	0.17	0	6,6,6	0.49	0
2	SO4	A	342	-	4,4,4	1.30	0	6,6,6	0.52	0

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

No monomer is involved in short contacts.

5.7 Other polymers ⓘ

There are no such residues in this entry.

5.8 Polymer linkage issues ⓘ

There are no chain breaks in this entry.

6 Fit of model and data ⓘ

6.1 Protein, DNA and RNA chains ⓘ

In the following table, the column labelled '#RSRZ> 2' contains the number (and percentage) of RSRZ outliers, followed by percent RSRZ outliers for the chain as percentile scores relative to all X-ray entries and entries of similar resolution. The OWAB column contains the minimum, median, 95th percentile and maximum values of the occupancy-weighted average B-factor per residue. The column labelled 'Q< 0.9' lists the number of (and percentage) of residues with an average occupancy less than 0.9.

Mol	Chain	Analysed	<RSRZ>	#RSRZ>2		OWAB(Å²)	Q<0.9
1	A	242/307 (78%)	-0.17	9 (3%) 41	45	27, 36, 58, 69	0
1	B	233/307 (75%)	0.32	19 (8%) 11	11	30, 53, 86, 95	0
All	All	475/614 (77%)	0.07	28 (5%) 22	23	27, 45, 82, 95	0

All (28) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	B	40	LEU	6.2
1	B	221	TYR	6.0
1	A	39	SER	5.6
1	B	301	HIS	5.1
1	B	260	PHE	4.8
1	B	300	ALA	4.7
1	A	40	LEU	4.1
1	B	222	MET	4.0
1	B	299	TRP	3.8
1	B	257	TYR	3.6
1	A	291	LYS	3.5
1	B	138	LYS	3.5
1	A	290	GLY	3.2
1	A	260	PHE	3.0
1	A	138	LYS	2.9
1	A	335	GLY	2.9
1	B	258	PRO	2.7
1	B	183	LYS	2.6
1	B	71	ASN	2.6
1	B	141	HIS	2.4
1	A	176	ILE	2.4
1	B	182	GLU	2.4
1	B	190	CYS	2.3
1	B	189	ILE	2.3

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Mol	Chain	Res	Type	RSRZ
1	A	185	SER	2.2
1	B	41	PRO	2.1
1	B	259	PRO	2.1
1	B	154	VAL	2.0

6.2 Non-standard residues in protein, DNA, RNA chains ⓘ

There are no non-standard protein/DNA/RNA residues in this entry.

6.3 Carbohydrates ⓘ

There are no monosaccharides in this entry.

6.4 Ligands ⓘ

In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. The B-factors column lists the minimum, median, 95th percentile and maximum values of B factors of atoms in the group. The column labelled 'Q< 0.9' lists the number of atoms with occupancy less than 0.9.

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
2	SO4	A	342	5/5	0.79	0.33	85,85,86,86	0
2	SO4	B	342	5/5	0.99	0.08	39,39,40,40	0

6.5 Other polymers ⓘ

There are no such residues in this entry.